

REMARKS

In accordance with the foregoing, claims have been neither amended nor canceled. Claims 1-15, 17-22, 31 and 32 are pending and under consideration.

REJECTION UNDER 35 U.S.C. §103:

Claims 1, 2 and 8 are rejected under 35 U.S. C. 103(a) as being obvious over Oonishi et al. (US Patent No. 5,295,125).

The Office Action acknowledges that Oonishi et al. fails to teach wherein the first reference value is in the form of an RPM. However, the Office Action sets forth that "at the time of invention it would have been obvious to one of the ordinary skill in the art to provide the apparatus of Oonishi et al. with an RPM reference value. The rationale is as follows: at the time of invention it would have been obvious to provide the apparatus of Oonishi et al. with an RPM reference instead of a time reference value is considered an art recognized equivalent in the art that is used for the same purpose, in the same environment, and achieves the same results."

Applicants respectfully disagree.

The Examiner asserts that an RPM reference is equivalent to a time reference. Oonishi et al. uses two values to identify a predetermined disc type, which are time and the other is a predetermined rotation speed.

However, claim 1 recites "detecting an RPM (Rotation Per Minute) of the disc; and identifying a first disc type by comparing the RPM with a first reference value, wherein the first reference value is in a form of RPM. Therefore, Oonishi et al. can not achieve the same result merely exchanging time with an RPM.

Without time value, Oonishi et al. can not identify different kinds of disc types. However, the present invention can identify different kinds of disc types without time information only using an RPM of a disc.

Furthermore, the Office Action sets forth that "Oonishi et al. teaches using the time it takes for the disc to reach a certain speed as the reference value instead of rotation speed of the disc. If Oonishi et al. were to use the rotation speed at a certain time as a reference value, it would be the same as the claimed invention. To flip the graph of Oonishi et al. around would have been obvious to one of ordinary skill in the art." Applicants respectfully disagree.

As discussed in MPEP 2144.06, In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the

equivalency of these components.

It is unclear whether Oonishi et al. recognizes equivalence between an RPM reference and a time reference.

Further, the Examiner is engaging in impermissible hindsight. There is nothing in Oonishi et al. that suggests that the graph be flipped. The Examiner has suggested it be flipped after reviewing the applicants disclosure.

As such, it is respectfully submitted that Oonishi et al. fails to teach or suggest the invention as recited in claim 1.

Regarding claim 2, The Office Action sets forth that Oonishi teaches identifying of the first disc type includes determining whether the disc is a DVD(-) type or a DVD(+) type(Oonishi teaches discriminating between a CD and a DVD. A DVD must be either a (+) or a (-)).

By way of review, Oonishi et al. merely discloses "recording medium discriminating means for discriminating plurality kinds of recording medium having different substrates but fails to disclose whether DVD.

Accordingly, it is respectfully submitted that Oonishi et al. fails to disclose "wherein the identifying of the first disc type includes determining whether the disc is a DVD (-) or a DVD(+) type.

As such, it is respectfully submitted that Oonishi et al. fails to teach or suggest the invention recited in claim 2.

Regarding claim 8, the Office Action sets forth that Oonishi et al. discloses a apparatus identifying a type of a disc, comprising a motor rotating the disc; and a system controller identifying the type of the disc by comparing an RPM of the disc detected using a frequency signal generated at the motor with a first reference value, wherein the first reference value is in a form of RPM.(FIG. 6, see also column 7 lines 65-68 and column 8 lines 1-6).

By way of review, Oonishi et al. discloses "the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disc until the disk reaches a predetermined rotating speed as substrate discriminating means, a known rotating speed detecting system or circuit 70 which detects the rotating speed of the optical disk on the basis of an output signal of the rotary motor 60 concerning the rotating speed ω_0 , and the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disk until the disk reaches a predetermined rotating speed ω_0 , on the basis of an output signal of the rotating speed detecting circuit 70 to discriminate the material of the disk substrate in accordance with whether the detected time t_1 or t_2 is longer or shorter than a predetermined

reference time t_0 that is, whether a time difference from the reference time t_0 is positive or negative (see FIG. 6).(col. 7, lines 65-68 and col. 8 lines 1-6).

As such, In Oonishi et al., the reference value is a predetermined time ,but in claim 8, the reference value is an RPM.

As such, it is respectfully submitted that Oonishi et al. does not disclose the invention recited in claim 8.

Claims 4-5, 10-11, 13, 15, 17-18 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oonishi in view of Ono et al. (U.S. Patent No. 6,822,936).

Regarding claim 4, the Office Action sets forth that Ono et al. teaches measuring reflectivity of the disc; and identifying a second disc type between a one-time recordable type and a re-recordable type by comparing the reflectivity of the disc with a second disc with a second reference value (fig. 2 element 2090).

By way of review, Ono et al. discloses "after the optical disc is determined as DVD-RAM or DVDRW in determination 2090 (column 10, lines 26-28, also see Fig. 2 element 2090). As noted above, Ono et al. discloses "determination whether a DVD-RAM or a DVDRW comparing reflectivity." Both DVD-RAM and DVDRW are re-recordable types. It is different from "identifying a second disc type between a one-time recordable type and a re-recordable type by comparing the reflectivity of the disc with a second reference value" as recited in claim 4.

As such, it is respectfully submitted that the combination of Oonishi et al. and Ono et al. does not disclose or suggest the invention recited in claim 4.

In addition, claims 5, 10, and 11 are deemed to patentable due at least to its depending from claim 4, as well as for the additional features recited therein.

Regarding claim 13, the Office Action asserts that Ono et al. teaches measuring a reflectivity of light from a disc to identify the disc format as one-time recordable type if the reflectivity is higher than a reflectivity reference value and as a recordable type if the reflectivity is less than the reflectivity reference value.(fig. 2)

Furthermore, the Office Action sets forth Oonish et al. teaches measuring an RPM of disc to identify the disc format as a DVD(-) type disc if the RPM is lower than a speed reference value or as a DVD(+) type if the RPM is higher than the speed reference value (fig. 6 see also column 7 lines 65-68 and column 8 lines 1-6)

By way of review, Oonishi et al. discloses "the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disc until the disk reaches a predetermined rotating speed as substrate discriminating means, a known rotating speed detecting system or circuit 70 which detects the rotating speed of the optical disk on the basis of an

output signal of the rotary motor 60 concerning the rotating speed ω_0 , and the substrate discriminating circuit 71 which detects, a time t_1 or t_2 required from the start of rotation of the optical disk until the disk reaches a predetermined rotating speed ω_0 , on the basis of an output signal of the rotating speed detecting circuit 70 to discriminate the material of the disk substrate in accordance with whether the detected time t_1 or t_2 is longer or shorter than a predetermined reference time t_0 that is, whether a time difference from the reference time t_0 is positive or negative (see FIG. 6).(col. 7, lines 65-68 and col. 8 lines 1-6). As such, In Oonishi et al., the reference value is a predetermined time but in claim 8 the reference value is an RPM.

Furthermore, Ono et al. discloses "after the optical disc is determined as DVD-RAM or DVDRW in determination 2090 (column 10, lines 26-28, also see Fig. 2 element 2090).

Ono et al. discloses "determination whether a DVD-RAM or a DVDRW by comparing reflectivity." Both DVD-RAM and DVDRW are re-recordable types. Conversely, claim 13 recites "measuring a reflectivity of light from a disc to identify the disc format as a one-time recordable type if the reflectivity is higher than a reflectivity reference value and as a recordable type if the reflectivity is less than the reflectivity reference value."

As noted above, a technology of Ono et al. is related to discriminate between different substrates such as CD or DVD but DVD(+) and DVD(-) can not tell from detected substrates because of the same substrates are used for both DVD(+) and DVD(-)types.

As such, it is respectfully submitted that the combination of Oonishi et al. and Ono et al. does not disclose or suggest the invention recited in claim 13.

In addition, claim 15 is deemed patentable due at least to its depending from claim 13, as well as for the additional features recited therein.

Further, claim 32 is deemed patentable due at least the same reasons of claim 13, as well as for the additional features recited therein.

Claims 7, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oonishi in view of Ono et al. further considered with Aoki (U.S. Patent No. 6,210,773).

Regarding claims 7, and 14, the Office Action acknowledges that Oonishi fails to disclose "the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV (Constant Linear Velocity) servo mode based on a wobble signal. However the Examiner takes Official Notice that to use a wobble signal for speed control is well known in the art and would have been obvious to use. The rational is as follows: it would have been obvious to provide the apparatus of Ono et al. and Oonishi with wobble speed control of Aoki because it is considered an equivalent alternative to other methods of speed control.

Furthermore, the Office Action sets forth that Aoki teaches the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV(constant Linear Velocity) servo mode based on a wobble signal (column 1 lines 40-41, see also column 7 lines 10-16).

By way of review, Aoki sets forth "the CLV control is carried out by reproducing a wobble signal from a tracking signal of the grooves (col. 1, lines 40-41). Furthermore, Aoki sets forth that "as the same time, the head control circuit 16 detects the wobble signal from the tracking signal and outputs it to the rotating control circuit 17. therefore, the rotating control circuit 17 fixes the linear speed of the optical disc for the optical head 15, by feedback control of the rotating speed of the spindle motor 19 to make it constant with the frequency of the wobble signal."(col. 7, lines 10-16). However, Aoki fails to disclose whether the detection of the RPM is performed after converting a motor control mode rotating the disc into a CLV servo mode based on a wobble signal" as recited in claim 7

As such, it is respectfully submitted that the combination of Ono et al. Oonishi and/or Aoki does not teach or suggest the invention as recited in claim 7.

In addition, claim 14 is deemed to patentable due at least to its depending from claim 13, as well as for the additional recitations therein.

In addition, claim 20 is deemed patentable due at least to its dependency from claim 17, as well as for the additional features recited therein.

OBJECTIONS TO THE CLAIMS:

As mentioned above, at page 6 of the Office Action, claims 3, 6, 9, 12, 19 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, reconsideration of claims 3, 6, 9, 12, 19, 21-22 is respectfully requested based upon the reasons mentioned above.

ALLOWED CLAIM:

Claim 32 has been allowed.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Serial No. 10/615,984

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 9/13/7

By: 
J. Randall Beckers
Registration No. 30,358

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501